

## **Appendix A**

---

# **Contract Reform Team Membership and Structure**

The Contract Reform Team is comprised of 15 Department of Energy representatives, as well as three representatives of the Office of Management and Budget. The membership encompasses both political and career officials, spans a wide variety of program and administrative offices, and includes both Headquarters and Operations Office representatives. Each member has an Alternate from his or her organization.

#### **CONTRACT REFORM TEAM MEMBERS**

William White, Deputy Secretary, Chairperson  
Bob Nordhaus, General Counsel, Vice Chairperson  
Cherri Langenfeld, Manager, Chicago Operations Office, Vice Chairperson  
Dan Reicher, Deputy Chief of Staff, and Counselor to the Secretary, Vice Chairperson  
Victor Reis, Assistant Secretary for Defense Programs, Vice Chairperson  
Don Pearman, Acting Associate Deputy Secretary for Field Management  
Archer Durham, Assistant Secretary for Administration and Human Resources  
Tom Grumbly, Assistant Secretary for Environmental Restoration and Waste Management  
James Decker, Deputy Director, Energy Research  
Sue Tierney, Assistant Secretary for Policy, Planning, and Program Evaluation  
Tara O'Toole, Assistant Secretary for Environment, Safety and Health  
Jack Siegel, Acting Assistant Secretary for Fossil Energy  
Betty Smedley, Acting Chief Financial Officer  
Bob San Martin, Deputy Assistant Secretary for Utility Technologies  
A. A. Pitrolo, Manager, Idaho Operations Office  
Jack Sheehan, Office of Management and Budget, Office of Federal Financial Management  
Stan Kaufman, Office of Management and Budget, Office of Federal Procurement Policy  
Robert Civiak, Office of Management and Budget, Energy Branch Chief

#### **CONTRACT REFORM TEAM STAFF**

Agnes Dover, Office of the General Counsel  
Carol Drury, Office of Public and Consumer Affairs  
Mary Egger, Office of the General Counsel  
Patricia Godley, Office of the Deputy Secretary  
David Hepner, Savannah River Operations Office  
Linda Johnson, Office of the General Counsel  
Kathy Peery, Office of Congressional Affairs  
Edward Simpson, Office of the Deputy Assistant Secretary for Procurement and Assistance Management

## **Appendix B**

---

# **History of DOE's Contracting Practices**

The Department of Energy inherited its current contracting practices from the Atomic Energy Commission (AEC), which was originally established by the Atomic Energy Act of 1946. The AEC was the successor to the Manhattan Engineer District (Manhattan Project). Prominent among those practices was the use of private contractors to manage and operate government facilities. This approach enabled the AEC and its successor agencies to attract the highly specialized scientific and engineering talent from academia and the private sector that was not otherwise available to the government. These scientists and engineers worked in close partnership with the government under the cloak of secrecy and urgency to develop nuclear weapons. They also operated major scientific laboratories to advance high-energy physics, basic research, and nuclear technology.

The resulting alliance between government and industry gave rise to the development of the Management and Operating (M&O) contract. The M&O contract contemplated long-term relationships under which the contractor handled most aspects of day-to-day management, while the government paid virtually all costs and exercised only broad, general oversight.

In recent years, the focus of DOE's mission has shifted away from high-risk research and production of nuclear weapons as demand for the nuclear weapons stockpile has diminished. As weapons facilities have aged, and as health, safety, and environmental regulatory requirements have become more stringent, DOE has continued to rely on M&O contractors to maintain a safe, secure nuclear weapons complex while undertaking new environmental restoration missions. Revelations about serious and widespread environmental contamination and safety and health problems have surfaced throughout the 13-state, 17-site DOE complex, causing the environmental restoration mission to dominate many of DOE's more recent contracting activities.

## **DOE CONTRACTING AUTHORITY AND PRACTICES**

DOE is subject to the laws and regulations that generally apply to the contracting functions of all federal agencies. These include the Competition In Contracting Act and the Federal Acquisition Regulation (FAR). Moreover, and generally within the framework of the statutes and regulations applicable to government agency contracting, a number of statutes give specific contracting authority to DOE, including the Atomic Energy Act, the Energy Reorganization Act of 1974, and the Department of Energy Organization Act.

In addition to M&O contracts, DOE awards many more typical government contracts for, for example, supplies, services, construction, and equipment. In making these awards, DOE generally follows standard government-wide competitive procedures and uses standard government-wide terms and conditions in the resulting contracts.<sup>1</sup>

The general statutory and regulatory framework under which DOE and other federal agencies conduct their procurements is often cumbersome, inefficient, and slow. As indicated in the National Performance Review, the federal procurement process must be streamlined.

## MANAGEMENT AND OPERATING CONTRACTS

The traditional M&O contract form has been used for half a century as the primary vehicle to conduct complex government programs ranging from nuclear weapons research, development, and production, to civilian nuclear reactor development and basic scientific research. The M&O contract has permitted the government to draw upon the expertise of the private commercial sector, particularly for nuclear weapons production, and the expertise of the academic community, particularly for basic research. These programs have been carried out with a relatively small number of federal employees who have served mostly to provide general oversight, review, and programmatic direction.

The traditional M&O contract as a method of contracting is recognized in the Federal Acquisition Regulation (FAR).<sup>2</sup> The FAR defines an M&O contract as:

an agreement under which the government contracts for the operation, maintenance, or support, on its behalf, of a government-owned or controlled research, development, special production, or testing establishment wholly or principally devoted to one or more major programs of the contracting Federal agency.

The M&O contract is a cost-reimbursement contract under which the government reimburses all reasonable ordinary business expenses of the contractor, subject to certain specified exceptions and limitations. The contractor is also paid a fee (fixed or award fee) or management allowance for performance of the work. In these respects, the M&O contract is similar to the standard cost-type contract outlined in the FAR and used by other government agencies.

The FAR provides that "cost-reimbursement contracts are suitable for use only when uncertainties involved in contract performance do not permit costs to be estimated with sufficient accuracy to use any type of fixed-price contract."<sup>3</sup> The work performed by M&O contractors historically has often been subject to many uncertainties, particularly due to the multidisciplinary nature of the research and development, or the potentially hazardous nature of the efforts involved. However, some functions performed by M&O contractors could have been awarded under separate contracts on a fixed-price basis but were not.

DOE modified its broad policy of cost reimbursement in 1991 to make certain costs unallowable for its profit-making M&O contractors.<sup>4</sup> The regulatory change made profit-making M&O contractors responsible for (1) fines and penalties resulting from their own negligence or willful misconduct; (2) costs, such as third-party claims, resulting from their own negligence or willful misconduct; and (3) damage to government property resulting from their own negligence or willful misconduct. However, the amount for which a contractor may be liable for unallowable costs under the "avoidable costs" rule is limited by a ceiling based on the award fee earned by the contractor. Inasmuch as relatively few costs have been disallowed under the rule and there has been no noticeable improvement in overall contractor performance or cost control, it appears that the new rule has not been particularly effective in increasing contractor accountability.

M&O contracts include very broad scopes of work, which are intended to accommodate changes in such areas as available funds, national defense needs, and the course of ongoing research. This approach permits work to continue without the need for continual detailed revisions of the scope of work.

With regard to funding and finance, the M&O contractors traditionally have functioned in closer relationship to the government than most other cost-reimbursement government contractors. Most M&O contractor organizations are separate business entities from their parent corporations, and the only work they perform is that work authorized under their DOE contracts. The M&O contractors thus have been allowed to use advance government funding through the establishment of letters of credit and special bank accounts. In order to be eligible for such advance funding, the M&O contractors are required to have established systems of accounts in accordance with DOE requirements.

The FAR also provides criteria that are to be used in determining when to use an M&O contract.<sup>5</sup> Although the procedures for selecting a new M&O contractor are in theory no different from the procedures followed for the selection of any major government contractor, M&O contractors have often been selected with very little competition. In fact, specialized regulations permit DOE to retain an M&O contractor to continue to perform work at a particular facility without competition.

The FAR requires contracting officers to review each existing M&O contract at least once every five years to determine whether competition for a new M&O contractor might reasonably be expected to achieve meaningful improvement in performance or cost of the work. Contracting officers are directed to consider the incumbent contractor's overall performance.<sup>6</sup> However, as a practical matter, despite the requirement to conduct periodic performance reviews, DOE has retained the services of many M&O contractors for relatively long periods of time, even when there have been performance problems.

## **ENVIRONMENTAL RESTORATION MANAGEMENT CONTRACTS**

In 1992, DOE introduced a new form of contract-the environmental restoration management contract (ERMC). Like the traditional M&O contract, the ERMC is a cost-reimbursement contract and has some of the same weaknesses as the traditional M&O contract.

The new ERMC, however, was designed to promote more contractor accountability than the traditional M&O contract. For example, ERMCs do not incorporate the advance-fund method of financing that M&O contracts have traditionally used. ERMCs also incorporate the standard cost-reimbursement provisions in the FAR, as modified to include DOE's "avoidable cost" regulatory changes referred to above.

More subcontracting of on-site work is contemplated with ERMCs than with M&O contracts and DOE will not use the extend/compete process for ERMC contractors. When the period of performance of an ERMC is concluded, the expectation is that future work will be open to competition, unless one of the standard government-wide statutory exceptions to competition (for example, sole source) is utilized.

## SUPPORT SERVICE CONTRACTS

Support service contracts allow the government to obtain discrete services for a specified period of time. The types of support services provided to DOE range from routine tasks (for example, janitorial services), to highly skilled, specialized studies (for example, concerning the nuclear waste program). The use of such contracts within DOE has expanded significantly within the past decade.

Support service contractors are generally selected through normal competitive procedures. For technical and administrative support services, the contracts are usually cost-reimbursement, level-of-effort arrangements in which work is directed through the use of discrete task assignments.

---

<sup>1</sup> Negotiation procedures authorized in FAR Part 15 are primarily used by DOE for acquisition of complex systems, technical management services, and environmental restoration activities.

<sup>2</sup> See FAR Subpart 17.6.

<sup>3</sup> FAR 16.301-2, 48 C.F.R. 16.301-2 (1992)..

<sup>4</sup> See *Federal Register*, June 19, 1991, pp. 28099-28110.

<sup>5</sup> FAR 17.604, 48 C.F.R. 17.604 (1992). provides the following criteria for using M&O contracts: (a) government-owned or controlled facilities must be utilized; (b) because of the nature of the work, or because it is to be performed in government facilities, the government must maintain a special, close relationship with the contractor and the contractor's personnel in various important areas (e.g., safety, security, cost control, site conditions); (c) the conduct of the work is wholly or at least substantially separate from the contractor's other business, if any; (d) the work is closely related to the agency's mission and is of a long-term or continuing nature, and there is need (1) to ensure its continuity, and (2) for special protection covering the orderly transition of personnel and work in the event of a change in contractors.

<sup>6</sup> DOE's regulations expand upon the FAR provisions and require, among other things, detailed summaries and annual appraisals of the contractor's performance, including data that indicate the contractor's success or failure in meeting established program goals and objectives during the appraisal period (DEAR 917.605), 48 C.F.R. 917.605 (1992).

## **Appendix C**

---

# **Criticisms of DOE's Contracting Practices**



## **DEPARTMENT OF ENERGY ISSUES**

The General Accounting Office (GAO) and the Department of Energy's Office of the Inspector General (OIG) have made the following criticisms of the Department's contracting practices.

### **Management**

- Cost-plus-fixed-fee contracts are overused by the Department. Fixed-price contracts would be more effective but are not used because of the vague and overly broad work statements. (GAO)
- Controls are not in place to ensure that small and small disadvantaged business goals are achieved. (OIG)
- DOE's poor management of indirect-rate proposals causes delays in obtaining incurred-cost audits. (OIG)
- DOE does not properly implement conflict-of-interest policy or procedures. (OIG)
- DOE needs to clearly delineate the amount of award fees lost due to environment, safety, and health deficiencies. (OIG)
- Work-for-Others program's implementation of proper management controls is lacking. (OIG)
- The Work-for-Others program requires stricter management controls. In some instances, the funds are used for activities other than their intended purpose and the internal controls over the projects are extremely weak. (OIG)
- DOE uses support service contracts because it lacks the capacity to fulfill the missions itself. (OIG)
- DOE is using contractors, mostly for support services, to fulfill roles that should be performed by full-time federal employees. (OIG)

### **Procedures and Regulations**

- DOE overuses cost-reimbursement contracts. (GAO)
- Documentation for rejecting audit recommendations based on ceiling rates and for establishment of contractor profit/fee objectives is insufficient. (GAO)

### **Financial Management**

- DOE's contracting is vulnerable to fraud, waste, and mismanagement because the Department repays nearly all contractors' costs and does not exercise sufficient oversight of contractors' operations. (OIG)
- Conditions exist, including noncompliance with certain regulations and the contract, in the

internal control structure of the prime contractors and the Department that result in a high risk that unallowable cost will be claimed by and reimbursed to the prime contractor. (OIG)

- DOE lacks assurances that its oversight and control of contract expenditures, through contract audits, will deter and detect potential fraud, waste and abuse. (OIG)

### **Procurement**

- The Department does not always use government supply sources when purchasing goods, even though it would be both economical and in the best interest of the government. (GAO)
- Employees responsible for operating and managing major acquisitions are not fully in compliance with the documentation and reporting requirements of the Department's Project Management System. (GAO)
- The Department depends on contractors to perform vital roles. (OIG)

### **Contract Award**

- Contracts are often inappropriately awarded because DOE officials do not follow rules and regulations properly. (GAO)
- The Department's contracts lack clear work statements and contract clauses. In addition, contracts are awarded before work is ready to begin, causing contracts to exceed their budget and time frame for completion. (OIG)
- DOE needs to improve its oversight of M&Os subcontracting, so it will be more cost-effective and efficient. (OIG)

### **Oversight**

- Requirements under M&O contracts for unallowable costs are not enforced. DOE's contract-administrators do not comply with the terms of the contract and do not require M&O contractors to perform internal audits. (GAO)
- DOE downplays ES&H deficiencies in the award fee process. DOE places more emphasis on production rather than ES&H factors. (OIG)
- DOE's procedures for supervisors are not specific enough to ensure that contractors' use of the Federal Telecommunications System is limited to official purposes. (OIG)
- Department officials do not comply with all Office of Federal Procurement Policy procedures for designating and renewing Federally Funded Research Development Centers (FFRDC) contracts. (OIG)

## **MANAGEMENT AND OPERATING CONTRACT ISSUES**

### **Subcontracting**

- M&O requirements for subcontracting of Work-for-Others projects need to be streamlined. (GAO)
- M&O contractors are not closing many of their subcontracts in accordance with DEAR 904.804-1, because they are not requesting final incurred cost audits in a timely manner. (GAO)
- The sub-contracting administration and internal controls need to be improved, especially in the area of audit coverage. (OIG)
- M&O contractors have not complied with procedures and have initiated procurement actions that were not economical and were inefficient in its administering of their subcontracts. (OIG)
- M&O contractors do not always award and administer subcontracts in accordance with the DEAR and DOE contract terms. Mostly they do not ensure fair and effective competition, reasonable prices, DOE approvals, and timely closure of completed subcontracts and fail to obtain DOE approvals. (OIG)
- M&O contractors do not insure that subcontractor prices are fair and reasonable and they restrict competition by inappropriately using sole source purchases. (OIG)

### **Financial Management**

- M&O contractors internal audits are inconsistent and unsatisfactory. (GAO)  
Department of Energy Issues

## **Appendix D**

---

# **Stakeholder Meetings**

The Contract Reform Team conducted a series of public stakeholder meetings in an effort to allow members of the public to present their views. Meetings were held at each of the Department's eight Operations Offices and in Washington, D.C. A wide variety of stakeholders, including current and potential contractors, labor unions, small and disadvantaged businesses, environmental organizations, community organizations, and academicians presented their views and comments. In addition, the Team held a Stakeholder Meeting with Congressional staff, the Department's Inspector General, and representatives of the General Accounting Office.

The candid exchange of views and forthright suggestions of all these stakeholders contributed greatly to the Team's understanding of the myriad, complex issues involved in evaluating and improving the Department's contracting policies and procedures, as well as the Team's proposals for addressing and resolving these issues.

The Department's stakeholders expressed concerns and a variety of opinions about DOE's contracting practices. Significant issues raised by the stakeholders included:

- Simplifying rules and regulations (DOE Orders).
- Improving (streamline and simplify) planning and the procurement process to reduce long lead times.
- Structuring incentives and disincentives.
- Eliminating bias toward incumbency.
- Improving the management of indirect cost.
- Providing incentives to management and operating contractors to increase the level of subcontracting with small and small disadvantaged businesses.
- Eliminating unnecessary requirements (security, undefined scope of work, and prohibitions on teaming).
- Ensuring work is done by competent, qualified personnel and companies.
- Enhancing small business participation in DOE prime contracts and subcontracts.

Many current DOE contractors feel that the Department micro-manages its activities. The contractors also expressed grave concern about the possibility of losing indemnification for their actions. Many noted that they would not subject their corporate or institutional assets to inordinate risk. These views differ greatly from congressional Office of the Inspector General and General Accounting Office stakeholders, who believe that indemnification provisions relieve contractors from the consequences of their actions to the detriment of the quality of performance and the incurrence of excessive cost to the taxpayer.

## **Appendix E**

---

# **Office of Environmental Restoration and Waste Management: Project Performance Study**

**November 30, 1993**

The Department's Office of Environmental Restoration and Waste Management commissioned the *Project Performance Study* to provide a quantitative analysis of how well the office plans and implements environmental remediation cleanup and waste management construction projects (DOE projects). The findings were derived by examining 65 completed and ongoing DOE projects, comparing their key characteristics and outcomes with 233 other environmental remediation projects, and 951 capital construction projects in data bases owned by Independent Project Analysis, Inc.

## **PRINCIPAL FINDINGS**

The principal findings of the study were:

- DOE Projects for environmental remediation cost 32 percent more than those in the private sector and 15 percent more than those of other federal agencies.
- DOE Projects have an average 48 percent overrun from the authorized estimate. More important, the variability in the accuracy of the estimates for DOE Project systems was greater than that for any other organization.
- DOE Projects for environmental remediation take 18 percent longer to complete than those in the private sector and other federal agencies. DOE Projects for waste management take 50 percent longer for mechanical completion than those with which they were compared.
- DOE Projects slipped their schedules by 53 percent from the start of engineering through completion, compared to an average of 16 percent for capital projects.

The study found inappropriate use of contracting strategies by DOE. For 81 percent of the environmental remediation and waste management projects in the sample, contracting practices at DOE installations allowed both a prime management and operating contractor and a prime on-site architectural and engineering contractor. Both the M&O and the A&E firms work on a cost-reimbursable basis. However, there is no mechanism between them to effectively manage the projects. Therefore, the use of multiple primes and decentralized authority limits project management effectiveness, resulting in average project management costs that are four times those of the private sector and two times those of other federal agencies. A critical aspect of the ineffectiveness of this arrangement is insufficient DOE management presence to ensure that proper requirements are established and that efficient decisions are made and communicated to the project teams performing environmental remediation and waste management work.

It is also typical for DOE's prime contractors to subcontract large portions of work on fixed-price terms. What is unusual is that the fixed-price work is actually not as well defined as the work that remains in house with the M&O contractor under cost-reimbursement terms. As might be expected, in light of the poorer definition, the cost growth on the

fixed-price tasks far exceeds the cost growth on cost-reimbursement tasks. Finally, the assignment of poorly defined tasks to subcontractors is, in effect, shifting project risk away from the prime contractors to the subcontractor, costing the taxpayers more money. In summary, DOE's contracting strategy has not been set according to project objectives and has not been in accord with sound practice.

A quarter of the DOE projects have significant regulatory impacts during the construction or remedial action phase because of a lack of coming to closure on project objectives by the project teams with the regulators. This resulted in additional costs and delayed schedules.

In addition, contingencies were set on informal norms or estimators' judgment, leading to contingencies that are too high (wasting money) or too low (eroding cost discipline).

## **RECOMMENDATIONS**

### **1. Change contracting strategy for the Department's Office of Environmental Restoration and Waste Management projects.**

- Determine target number of DOE personnel and contractor personnel necessary to perform essential owner functions for the Office of Environmental Restoration and Waste Management.
- Set up contracting strategies according to project objectives and risks (e.g., fixed-price contracts for well-defined projects, cost-reimbursement contracts for projects that can not be well defined).
- Enhance project controls and eliminate redundancy by avoiding the use of multiple prime contractors.
- Regain control of essential owner functions from the contractors.
- Place accountability of DOE and contractor managers for project performance at the project level.

### **2. Reform the approach to controlling project management.**

- Develop a specific measure to make the project basis comparable across the complex.
- Set quantitative goals for improving project systems.
- Work with DOE Operations Offices to measure and monitor the performance of project systems.



3. Overhaul the process for defining projects.

- Establish a complex-wide process for defining projects uniformly and in accordance with best practices, including appropriately coming to closure with regulators in a timely manner, and train project teams in these practices.
- Establish a project measurement program for tracking the quality of project definition for all projects.
- Use the measurements program to hold project teams accountable for achieving well defined projects prior to execution.

## **Appendix F**

---

# **Scientific Research Performance Measures and Criteria**

- Quality of the basic science, as indicated by expert advisory committees; peer reviews; sustained progress; recognition by the scientific community; and world-class research facilities.
- Relevance to DOE missions and national needs, as indicated by sustained advancement of fundamental science; programs in support of energy and other civilian technology development programs; joint efforts with industry or other government agencies, and advanced research facilities that serve the needs of a wide diversity of scientific users from industry, academia, and government laboratories.
- Construction and operation of research facilities that meet user needs and requirements, as indicated by achieving performance specifications; meeting schedule and cost milestones; operating facilities that are used for research at the forefront of science; operating reliably according to planned schedules; maintaining and improving facilities at reasonable and defensible cost; and obtaining endorsement by strong and enthusiastic user organizations.
- Effectiveness and efficiency of research program management, as indicated by well-developed research plans; meeting budget projections and milestones; identifying and overcoming technical problems; and effective decision making in managing and redirecting projects.

## SUBCRITERIA

## MEASURES

### DESIGN AND CONSTRUCTION OF RESEARCH FACILITIES

#### *Criteria: Design and construction of research facilities*

Achieving performance, schedule, and cost milestones as agreed to, prior to initiation of construction

The contractor and DOE agree that DOE Order 4700.1, Project Management System, provides criteria, instructions, formats, and procedures for project planning and budgeting, cost and schedule control, project change control, quality assurance, project review, status reporting, and other performance factors, and that this order also provides for the Energy Systems Acquisition Advisory Board (ESAAB), which provides formal Departmental review of all the key milestones from project initiation of design to completion of start-up procedures and that DOE Order 2200.6A, Financial Accounting, provides criteria and operating procedures for determining and allocating capital and noncapital costs.

#### *Criteria: Use of facilities or management of their use for others*

Preeminence of the facility

Is there a plan for improvements as measured, for example, by defensible requests for facility upgrades or modifications? How high is it on the M&O director's priority plan?

Is there support by the Department of Energy Program Office for the improvement plans and proposals? By others? By the users?

How do the operating specifications of the facility compare with other facilities worldwide? Is it unique? Is it better? Is it comparable?

Performance of the facility: Is it meeting its originally targeted performance plan?

Does it have an operating plan agreed to by the Department of Energy? Is it achieving that operating plan in terms of up time and down time, number of unscheduled outages, and the like? Does the facility meet other appropriate performance specifications like beam quality, flux, luminosity, etc.?

Are the expectations of the users being met, as indicated by the opinion of user and other advisory groups?

**SUBCRITERIA**

**MEASURES**

**DESIGN AND CONSTRUCTION OF RESEARCH FACILITIES** *(continued)*

***Criteria: Use of facilities or management of their use for others (continued)***

Quality of the science: Is the research at the facility deemed to be world-class science, as measured by an appropriate peer review process? Is a reasonable fraction of the work that is supported at the forefront of the science?

Is the facility being pushed to extend its capability by users who have been deemed worthy of support?

Have national and international awards been granted based on work done at the facility?

Are there independent "Advisory Committees" that report to the M&O contractor's laboratory director, and is their advice considered?

Is a reasonable fraction of the work that is supported in

Strength and enthusiasm of the user community: Is the community of users an important part of the scientific community at large?

What are the projections, and how well are they being met for:

- Level of user activity.
- Investment made by users to use the facility.
- Diversity of users among university, industry, and government affiliations, including minority businesses.
- Communication of research results by users, by appropriate means, such as publications and presentations.
- University involvement, as indicated by the involvement of graduate students and number and quality of graduate research theses.
- Industrial involvement, as indicated by the involvement of industrial users and publications.

Is the contractor reaching out to new users? What are the projections for future new users, and how well are those projections being met?

## SUBCRITERIA

## MEASURES

### CRITERIA AND MEASURES FOR SCIENTIFIC RESEARCH PROGRAMS

#### *Criteria: Criteria that apply to all basic research programs*

Scientific quality of the research: Is the research of such quality that it pushes the state of current knowledge close to its limits or makes new contributions to the field?

Results of conventional peer review and reviews across scientific sectors of research proposals and accomplishments.

Progress, as indicated by sustained advancement and achievement.

Quality of the research staff, as revealed by awards, high-quality publications in refereed journals, leadership in the scientific community, and the opinions of other professionals in the fields of work.

Innovativeness of the research: Has the work spawned new areas of investigation by others?

Creative and original concepts and designs for research facilities and programs.

New programs spawned; new research areas highlighted.

New technologies or techniques developed.

Seminal papers, as judged by independent peer review.

Impact on industry: Has the work generated the interest and involvement of potential industrial partners or users?

The degree to which research tasks are directed at national technology needs.

New or improved technologies are created, as indicated by industrial usage and spin-off applications.

Linkage to industry through collaborations and jointly funded research efforts and the use of national experimental facilities

**SUBCRITERIA**

**MEASURES**

**CRITERIA AND MEASURES FOR SCIENTIFIC RESEARCH PROGRAMS** *(continued)*

Impact on other government agencies: Has the work generated interest and involvement of other government agencies?

Work directed in support of other agencies' known needs.

Savings from identifiable consolidation.

Work for others - if appropriate.

**Criteria: Criteria for multi-investigator, multi-disciplinary, integrated research programs**

Integrated program planning and review

Quality of integrated research plans.

Effectiveness in forming and using interdisciplinary teams, as appropriate.

Degree to which programs meet national needs and the Department's mission, as determined by outside advisory committees.

Results of program reviews by Department and other stakeholder managers, covering progress, research task priorities, and personnel expertise.

Outreach to industrial organizations; conferences and workshops organized and attended; conference leadership.

Efficiency of operations

Effective use of personnel, facilities, and equipment, as indicated by trends in costs.

Decision making, as indicated by effective setting and changing of milestones and the ability to redirect or stop projects.

Based on available resources, ability to meet program milestones.

Are potential technical problems identified and steps taken to mitigate them?

**SUBCRITERIA**

**MEASURES**

**CRITERIA AND MEASURES FOR SCIENTIFIC PROGRAMS**

***Criteria:*** Criteria that apply to all basic research programs (*continued*)

Education and training: Has the program been actively involved in promoting the educational agenda of the nation?

Graduate students and postdoctoral research staff participating in research.

Programs for local students and high school teachers.

Contribution to the broad education mission of the agency, which includes work to improve, nationally, science and mathematics education.

Government, university, industry cross-sector alliances: Do the programs develop and incorporate alliances that promote opportunities?

Evidence of leadership in cross-sector alliances.

Advantageous use of cross-sector resources.

Evidence of "economies" obtained in timing, funding, and use of infrastructure.

Number of cross-sector temporary personnel assignments.



## **Appendix G**

---

# **Applied Technology Performance Measures and Criteria**

The recommended metrics for applied technology fall into four major categories. These are drawn from a longer list of metric categories developed during DOE strategic planning exercises. They represent those areas most relevant to the applied technology activities of the Department. Listed below is a summary of each category's major attributes.

- **Technology and competitiveness**, as indicated by the effectiveness of technology transfer activities, promotion of industrial competitiveness, contribution to DOE program goals, technical achievements, and cost and schedule performance.
- **Environment, safety, and health**, as indicated by compliance with all contractual, federal, state, and local environment, safety, and health requirements and by a demonstrated record of improved environment, safety, and health performance through application of new technologies and techniques.
- **Management practices**, as indicated by the effectiveness of procurement practices and contract administration, the degree to which planning activities support DOE and stakeholder needs, and the effectiveness of the contractor's Total Quality Management practices.
- **Communication and trust**, as indicated by stakeholder perceptions of the contractor's integrity, reliability, flexibility, and trustworthiness.

## TECHNOLOGY & COMPETITIVENESS

### *Attribute: Technology Transfer & Industry Competitiveness\**

Criteria	Metric
Effective use of technology transfer vehicles (CRADAs, WFOs, sub-contracts, licenses, researcher exchanges, facility-use agreements, etc.) to stimulate commercialization activities by industry.	Annual total CRADA and cost-shared subcontracts contributions as a percentage of annual lab budget for unclassified work. # of CRADAs and cost-shared subcontracts. # and % of CRADAs and cost-shared subcontracts that include commercialization commitment by industry. # of CRADAs and cost-shared subcontracts per research employee. Average size of CRADAs and cost-shared subcontracts. % of industry contribution (e.g., cost share). # of licenses, and % for commercial use and sale. # of WFO and technical assistance agreements and % with industry. # of exchanges and quality of exchange.
<i>[Note: CRADAs would also use other metrics to measure contract performance.]</i>	
Development and execution of effective outreach programs to non-federal sector (e.g., information, technical assistance, promotion of lab's technologies).	# of agreements that result from outreach/marketing efforts. # and type of information products delivered and contacts made with the public each year. # of information products provided to DOE for dissemination to the public (Office of Science & Technology Information, National Technical Information System,

	<p>Federal Research in Progress).</p> <p># of expressions of interest from private industry per year.</p> <p>Stakeholders assessment of programs effectiveness (O/G/S/M/U).</p> <p># of facility-use agreements.</p>
<p>Development and management of intellectual property portfolio and value to U.S. industry. Special consideration given to small business (including small disadvantaged) and U.S. preference.</p>	<p># of invention disclosures per research employee doing unclassified work, and % of patents that are licensed or pursued under a CRADA and cost-shared subcontracts.</p> <p># of licenses.</p> <p># and % of agreements with U.S. companies.</p> <p># and % of agreements with small business.</p>

**Attribute: Systems Analysis\***

Criteria	Metric
Effectiveness of contractor's assessment of system impacts, and uncertainties of its technology activities vs. DOE program goals.	Assessment of the competitiveness and quality of the contractor system analysis by DOE (O/G/S/M/U). Extent of stakeholder network input into contractor assessment (O/G/S/M/U).
Quality of advice the contractor provides to DOE.	Assessment by DOE of the quality and timeliness of the programmatic recommendations provided to the Department (O/G/S/M/U).

**Attribute: Technical Effectiveness\***

Criteria	Metric
Industry's willingness to participate.	\$ & % of cost share each phase, by program, each year.
Accomplishment of work to technical specifications.	% of design specifications met in each phase, each year.
	Evaluation of work by DOE technical experts (O/G/S/M/U).
	Peer review evaluation of proposed work by technical experts (O/G/S/M/U).
	# of peer reviewed publications.
Cost-benefit analysis of proposed and ongoing work.	Assessment of the contractors' processes for evaluating the cost of conducting work to the benefits derived (O/G/S/M/U).

**Attribute: Schedule Performance\***

<b>Criteria</b>	<b>Metric</b>
Major and critical milestones completed on time (contract management reporting completed as required).	% (schedule/plan) & # of technologies completed/per phase/each year/per program. # and % of milestones by type (contractors, Field, Headquarters, external) completed per reporting period. Milestones completed ahead of time. # of contract reports submitted vs. scheduled.
Demonstrated ability of the contractor to initiate and implement the necessary actions for schedule recovery.	# & % reprogrammed milestones by mutual consent.

**Attribute: Cost Performance and Cost Quality**

<b>Criteria</b>	<b>Metric</b>
Cost targets achieved.	\$ and % variance of cost during reporting period. \$ and % variance in actual vs. projected cost each year, for each program. \$ and % obligated vs. planned cost per reporting period. DOE managers' assessment of contractor performance in meeting cost objectives.
Quality of work cost estimates.	% change in original cost estimate.
Contractor-initiated cost savings.*	DOE evaluation of contract's cost savings achieved vs. the contractor's plan for achieving cost savings through efficiency and cost-effectiveness (O/G/S/M/U).

**ENVIRONMENT, SAFETY AND HEALTH**

**Attribute: Environment, Safety, and Health Performance**

<b>Criteria</b>	<b>Metric</b>
Compliance with all contractual, federal, state, and local requirements as regards environment, safety, and health.	Statistics on accidents and occurrences. # of OSHA violations each year. # of lost work days. # of environmental violations each year. Program managers' assessment of effectiveness (O/G/S/M/U).

**MANAGEMENT PRACTICES\***

***Attribute: Procurement Effectiveness***

<b>Criteria</b>	<b>Metric</b>
Cycle time.	# or % of milestones met.
Subcontracting goals.	% of procurement goals achieved each year.

***Attribute: Administration Effectiveness\****

<b>Criteria</b>	<b>Metric</b>
Overhead (people and dollars as a portion of the whole).	Ratio of technical/(technical + administrative costs).

***Attribute: Effectiveness & Relevance in Planning\****

<b>Criteria</b>	<b>Metric</b>
Industry involvement in program and project planning.	Increase in opportunities for input.
Contractor planning effectively supports implementation of DOE goals.	DOE evaluation of quality and comprehension of systems evaluation. Stakeholder satisfied with opportunities for input in planning process (O/G/S/M/U).
Providing program assessments and recommendations to DOE concerning system impact and stakeholder needs.	DOE evaluation of program plans vs. goals (in consultation with input from stakeholder).

***Attribute: Total Quality Management (TQM) Performance***

<b>Criteria</b>	<b>Metric</b>
Superior business practices. Customer focus and satisfaction. Leadership. Management of quality processes. Human resource development and management. Quality and operational results.	Results of stakeholders survey (e.g., impacts of performance improvement activities on cost, time, quality).

**COMMUNICATION AND TRUST\***

***Attribute: Quality of the M&O as a Partner with its Stakeholders***

<b>Criteria</b>	<b>Metric</b>
Integrity. Reliability. Flexibility. Trust.	Results of stakeholders' survey (O/G/S/M/U). Degree of stakeholders satisfaction. # of ethic/integrity violations each year. Number of complaints and sustained protests by stakeholders each year.

In summary, we propose a performance evaluation process that integrates Departmental strategic goals, program objectives, laboratory visions, and contractor activities.

Performance criteria/measures and incentives are useful measures of assessing contractor effectiveness only to the extent that the contracting activity to which they relate is relevant to the Departmental and programmatic goals. To optimize departmental effectiveness in applied technology, this performance evaluation process must be used for all applied technology efforts, regardless of where they are conducted within the Department's laboratory complex.

## **DELIVERABLES**

### **Process for establishment of M&O performance metrics.**

We will develop a process to establish performance metrics for applied technology efforts, that begins with the strategic goals of the DOE Program Office. From this, the process will derive broad M&O contractor goals, laboratory objectives, a Performance Evaluation Plan specifying performance criteria and metrics, and finally a structure for laboratory Field Work Proposals that include very specific performance assessment measures for specific applied technology tasks.

### **M&O performance metrics for applied technology tasks.**

We will develop representative performance metrics to be used in laboratory Performance Evaluation Plans. Applied technology metrics will address the needs of technology stakeholders for commercialization of technology across the stages of technology development, from applied research through exploratory development, engineering development, demonstration, and operability testing.

### **Application of performance metrics to applied technology M&O contracts.**

Following a pilot test at a specific laboratory of the performance metric process and its application, we will apply the process to all M&O contractors executing applied technology programs.

## **Schedule**

M&O performance metric process completed	July 1994
Representative M&O performance metrics completed	December 1994
Performance metrics used by all applied technology M&Os	July 1996

## **Owner**

M&O performance metric process	Energy Efficiency and Renewable Energy
Representative M&O performance metrics	Energy Efficiency and Renewable Energy
Performance metrics used by all applied technology M&Os	Office of Field Management

## **Appendix H**

---

# **Defense Programs Performance Measures and Criteria**

### **Defense Programs Performance Measures and Criteria**

The Office of the Assistant Secretary for Defense Programs and the Office of Intelligence and National Security, in cooperation with other affected Departmental organizations, developed a Strategic Plan for National Security activities of the Department of Energy that identifies strategic objectives, prioritizes its activities, and will serve as a basis for future budget and contracting activities. As part of that activity, a number of performance criteria and metrics have been identified for use in both self-assessment and assessment of contractor performance. These performance criteria and metrics are based, in part, on the President's Quality Award Program, which is an adaption of the Malcolm Baldrige National Award Criteria, and reflect the total quality philosophy of these award programs and on specific programmatic objectives developed in the strategic planning process.

The performance criteria and metrics identified in the appendix reflect the thinking to date of the group who developed the National Security Strategic Plan and will be expanded and refined as the Department moves to include more specific performance criteria and metrics in its contract vehicles. Not all of the performance criteria and metrics will be applicable in all contracts. Performance criteria and metrics have been developed for (1) five specific program Focus Areas within the November 1993 National Security Strategic Plan and (2) general management.



**FOCUS AREA: STEWARDSHIP OF THE U.S. NUCLEAR WEAPONS ENTERPRISE**

**Strategic Goal: Maintain nuclear weapons technology and competence that are responsive to national security needs—within expected fiscal constraints.**

<b>Criteria</b>	<b>Metric</b>
Ensure that the stockpile is safe, secure, reliable, and flexible without underground nuclear testing.	Variance from schedules for stockpile surveillance evaluations.
	Variance from schedules for regular maintenance requirements.
	Cycle time to respond to unanticipated stockpile problems.
	Variance from schedule as the facilities in the stockpile stewardship program are designed, constructed, and activated.
	Variance from schedules for hydronuclear experiments to assess reliability and safety of all weapons and for high-fidelity flight tests as part of an enhanced stockpile surveillance program.
	Variance from schedule to complete the archiving of relevant data and experience on each weapon in stockpile.
	Ability to match past tests with experiments in new facilities.
	Effectiveness of program to train and mentor scientists, engineers, and technicians to ensure a cadre of future weapons experts.
	Compliance with environment, safety, and health requirements.
	Success of 3-D codes to evaluate experimental results.
	Time required to return to underground testing, if needed.
	Periodic assessments of the professional competence of scientific and technical staff.

Criteria	Metric
Provide the ability to respond to continuing and evolving nuclear threats.	<p>Number of emergency-response field actions regularly conducted, and tabletop exercise in between, to evaluate capability with improved equipment and procedures.</p> <p>Improvements in nuclear sensor and search capability.</p> <p>Degree to which DOE's threat assessment and recommendations are accepted in the inter-agency process.</p> <p>Degree to which DOE's advanced developed equipment is adopted to detect development and products of nuclear weapons.</p> <p>Adequacy of technology demonstration programs designed to counter continuing and evolving threats.</p>
Enable a reduction in the size of the production infrastructure and its environmental impacts.	<p>Progress in the waste minimization plan.</p> <p>Evaluation of success of new equipment and improved processes and facilities.</p> <p>Reduction in time needed to complete material control accounting functions.</p> <p>Success in transferring new technologies.</p> <p>Implementation of environment, safety, and health improvements, including Defense Nuclear Facilities Safety Board recommendations.</p> <p>Dollars invested per weapon in stockpile.</p>
Ensure availability of special nuclear materials and tritium.	<p>Number of warheads red-lined due to lack of tritium.</p> <p>Variance in schedule in determining the technology for future tritium supply.</p> <p>Variance in schedule to activate the capability to produce future tritium.</p> <p>Assessment that stored material conforms to the nuclear weapons stockpile plan.</p>

**Criteria**

**Metric**

Assessment that storage of materials and components conforms with safety, security, and environmental requirements.

Variance in schedule for deployment and activation of "Complex 21."

**FOCUS AREA: DRAWDOWN AND DISPOSITION**

**Strategic Goal: Reduce nuclear stockpiles by safely dismantling thousands of nuclear weapons. Support safe disposition of nuclear materials and components that could contribute to proliferation by providing capabilities, technologies, and systems.**

Dismantle excess nuclear weapons, in accordance with national policy and international agreements, and provide safe, secure, and verifiable processing and storage of the resulting nuclear materials and components.

Degree to which DOE capacity for dismantlement meets U.S. policy requirements (measured by National Security Council and Department of Defense).

Extent to which DOE performance has met its commitments (variances from stockpile plans).

Number of environment, safety, health, and security-related incidents associated with dismantlement activities.

Seize all opportunities to work with the Russians and others to reduce, eliminate, and prevent the spread of nuclear weapons, materials, and expertise.

Congressional, executive branch, and public recognition of DOE leadership in programs designed to reduce the danger of contributions to proliferation by the former Soviet Union.

Number of effective collaborations and relationships with foreign countries that support U.S. nonproliferation objectives.

Implement credible, cost-effective technologies, capabilities, and systems for storage, conversion, and eventual disposition of all forms of nuclear weapons-capable materials. Honor U.S. nonproliferation policy commitments.

Quantity of weapons-capable nuclear material that is accounted for in U.S. or worldwide nuclear material control and accounting schemes.

Quantity of weapons-capable nuclear material for which there is an accepted long-term disposition plan.

Fraction of material that has undergone disposition.

**Criteria**

**Metric**

**FOCUS AREA: TECHNOLOGY INFRASTRUCTURE AND CORE COMPETITIVENESS**

**Strategic Goal: Achieve continual enhancement of the technology infrastructure and core competencies for execution of the national security mission while further assisting industrial competitiveness.**

Develop the technology infrastructure and multipurpose facilities to support the core competencies needed to execute the national security mission, while further assisting industrial competitiveness.

Quality of program, as measured by review groups.

Quality of technical programs, as measured by citations, including Industrial Review "Top Ten" and other awards.

Number of proposals for partnerships, and a reduction in the processing times for partnerships.

Comparison of overlap of technology infrastructure with industrial competitiveness requirements.

Orient technology programs to solve deficiencies in operational safety, environment, health, and security.

Status of benchmarking.

Reduction in the number and quantity of environmentally harmful chemicals and compounds released that can be traced to the reorientation of advanced technologies.

Number and scope of deficiencies in plant operations/activities that are identified and resolved by technology.

Identification of research and development efforts as origin of solutions identified for reducing harmful releases and operational deficiencies.

Reduction in the number of injuries to plant workers that can be traced to advanced technologies.

Reduction in the number of claims filed against DOE for violations of environmental and safety statutes that can be traced to the reorientation of advanced technologies.

Criteria	Metric
Produce “dual benefits” through joint efforts with other DOE programs, other agencies, industry, and other countries.	Quality of investment strategy and programs.
Assist DOE in fulfilling its other objectives by the use of DOE security assets.	<p>Number of technologies transferred from the weapons programs to other DOE organizations, e.g.:</p> <ul style="list-style-type: none"><li>• Improved fuel efficiency through new plastics, ceramics;</li><li>• New methods to discover and extract natural resources; and</li><li>• New technologies to deal with transuranic wastes.</li></ul> <p>Number of facilities used (and paid for) by other programs, both government and private.</p> <p>List of satisfied customers.</p> <p>Impact on science and math education in Defense Programs communities that can be attributed to the use of DOE national security assets.</p>

#### **FOCUS AREA: RESTRUCTURING OF THE DOE NATIONAL SECURITY ENTERPRISE**

**Strategic Goal: Transform the DOE national security infrastructure to meet all current and future requirements for (1) management of nuclear weapons design, testing, and manufacturing technology; (2) weapons-capable materials; and (3) maintenance of arms control and related technologies. Make the infrastructure cost-effective, responsive, flexible, agile, and environmentally responsible.**

Criteria	Metric
Implement promptly a restructuring plan.	<p>Is the complex smaller, less diverse, more cost-effective, and environmentally responsible?</p> <p>Percentage of equipment relocated, facilities modified, construction completed, or processes qualified at receiver sites against plan for nonnuclear consolidation.</p> <p>Office of Management and Budget and congressional support for budget requests and outyear funding requirements needed to complete the approved plan.</p>

Criteria	Metric
Establish flexible processes that demonstrate very short-cycle and cost-effective design, development, and manufacturing to respond to changes in customer demand.	Ability to meet dismantlement, retrofit, and production requirement to delivery of first production unit.  Percentage of complex design/production projects that reflect application of concurrent engineering processes, ensuring that output considers both design and manufacturing parameters.
Ensure prompt identification and effective transfer process for excess facilities.	Number and significance of excess facilities still under national security programs, even though no longer needed.  Variance from approved schedule for transferring facilities to appropriate entities.  Redeployment of national security resources from excess facilities to ongoing responsibilities.

**FOCUS AREA: NONPROLIFERATION AND ARMS CONTROL**

**Strategic Goal: DOE will be a full participant in preventing the spread of nuclear weapons, materials, and expertise, and the preeminent agency in providing the technology to do this.**

Develop and maintain a preeminent research and development program that anticipates non-proliferation, counterproliferation, and arms control needs.	Frequency with which customers call on DOE for support.  Number and quality of research and development initiatives completed/applied, and the time from concept to application.  Percentage of R&D for which there are specific applications and customers.
Provide quality intelligence assessments on scope, status, and potential threats of proliferation of weapons of mass destruction.	Frequency with which customers judge DOE intelligence products to be timely, credible, and relevant.
Provide a preeminent technical and analytical capability to support national security policy formulation.	Frequency and level in which DOE participates in interagency nonproliferation and arms control policy planning and decision fora.
Develop and implement an effective, efficient, worldwide emergency management and response capability for incidents affecting national security.	DOE's emergency management system is adopted as the international standard for responding to nuclear incidents.

**Criteria**

Develop the capabilities, technologies, and systems to create, anticipate, and explain opportunities for international nuclear weapons and special nuclear materials control and accountability and to support arms control treaty monitoring.

Provide an environment that promotes a measurable increase in personal and organizational development.

Demonstrate results from the continuous improvement in program quality.

**Metric**

Number of times DOE's knowledge, technologies, or systems are used in the international arms reduction and verification monitoring arena.

Frequency and degree with which customers ask DOE to contribute to international safeguards and control activities.

Design of management commitment to creating and sustaining an organizational vision and customer focus orientation.

Effectiveness in communicating clear and visible quality values.

Degree to which data, information, and measures are valid and used to drive quality and operational improvement.

Degree to which the workforce has been empowered to develop its full potential.

Degree to which quality requirements are integrated in overall planning.

Results of surveys of customers on Defense Programs' satisfaction of their needs.

## **Appendix I**

---

# **Environmental Restoration and Waste Management Performance Measures and Criteria**



The Office of Environmental Restoration and Waste Management (EM) is developing performance measures and criteria for use in contracts within the framework of six major goals in the EM Strategic Plan. These goals are to:

1. Manage and eliminate the urgent risk threats in our system.
2. Provide a safe workplace that is free from fatalities and serious accidents, and continuously reduces injuries and adverse health effects.
3. Change the system so that it is under control managerially and financially.
4. Be more outcome oriented.
5. Focus the technology development program on DOE's major environmental management issues, while involving the best talent in DOE and national (public and private) science and engineering communities.
6. Develop strong partnerships between DOE and its stakeholders.

EM is developing a performance measurement system that integrates measures with the planning, budgeting, and contracting processes. EM will develop its measures using a top-down/bottom-up (e.g., Headquarters/Operations Office) approach.

The attached contract performance measures and criteria tied to the major program goals are intended to be illustrative. These measures and criteria will be refined based on stakeholder comments and additional Departmental input.

*NOTE: The following measures and criteria are dynamic. They are in a continual refinement*

Goals	Criteria	Measures
<b>Goal 1: Manage and eliminate the urgent risks and threats in DOE's system.</b>	Reduce the major safety risks posed by the Hanford high-level waste tanks' flammable gases.	Prevention of the accumulation and release of flammable gases within X number of Hanford's tanks (such that the concentration in each tank's dome space does not exceed 25% of the lower flammability limit).
	Complete implementation of the DOE Spent Fuel Management program. Incorporate specific milestones identified with accomplishing this objective in the annual operating plans referenced in the contract to mitigate the urgent risks associated with spent fuel in Hanford K-Basin and Idaho CPP 603.	Contract payment incentives will be based upon required completion of milestones in accordance with the established schedule and within budgeted costs. In addition, award fee will reward a specific level of reduction in the Defense Nuclear Facilities Safety Board's recommendations for the Spent Fuel Management program (with a final goal of zero recommendations).
<b>Goal 2: Provide a safe workplace that is free from fatalities and serious accidents, and continuously reduces injuries and adverse health effects.</b>	Develop a workforce that is competent, proficient, accountable, and committed to safety and health. Incorporate within contract statements of work mandatory and desirable safety and health training curricula for senior and mid-level managers and workforce. The expectation is that 75% of employees will complete safety and health and RadCon training curricula, as defined by contract language within six months of the course's availability.	Safety and health required-training curricula are operating by December 1995, in accordance with contract requirements.
	Identify and mitigate hazards at EM dfacilities. Reward or penalize the contractors based on their specific actions to identify and correct workplace hazards.	Contract incentive payments will be based on: <ul style="list-style-type: none"><li>• Reductions in lost-time injury rates and lost work day statistics.</li></ul>

Goals	Criteria	Measures
<b>Goal 3: Change the system so that it is under control managerially and financially.</b>	<p>Include the requirement (in operating plans for contracts and their award fee evaluations) to baseline projects within the time frames necessary to meet the deadlines in the Defense Authorization Act of 1993. Baselines must be realistic and must include the cost, schedule, and technical details to perform and manage EM's work.</p>	<ul style="list-style-type: none"> <li>• Annual percentage reductions in Occupational Safety and Health Administration recordable injury rates, based on calculated yearly improvements.</li> </ul>
	<p>Contracts will include firm requirements for the contractors to be cost-effective and to identify and implement contract cost reductions associated with savings.</p>	<p>Cost and schedule outcomes and the attainment of cleanup goals will be measured against baselined/contract-stated amounts with incentive payments based upon resulting variances.</p>
	<p>Major EM contractors will be contractually required to maintain program/project management systems that are capable of supporting the development of verifiable, realistic, original cost estimates and costs to complete.</p>	<p>Bottom-line contract cost reductions (while maintaining the quality of work) will be measured. There will be provisions for contractor fee increases for additional reductions realized above the contract-specified amounts.</p>
	<p>Contractors will provide accurate financial and project-control information to the Field Office within a contract-specified number of days after the close of the accounting period. The target is to achieve near real-time submission dates for data when feasible.</p>	<p>Variances from budgeted project cost estimates will be measured, with adjustments made to award fee based upon established amounts per dollar level of change.</p>
		<p>Contractors will provide financial and project control data and reports within the specified number of days after the accounting period ends. Specific measured delay periods beyond the dates specified will be penalized.</p>

Goals	Criteria	Measures
	Mandatory contract-reporting requirements must include accurate disclosure of cost and schedule information that is adequate to facilitate government oversight.	Accuracy of the contractors' data will be assessed during monthly reviews and periodic on-site audits.
<b>Goal 4: Be more outcome oriented.</b>	EM contracts for cleanup work must include both contractor risk for performance results that accomplish contract decontamination standards and also incentive payment for exceeding required results within contract cost limitations.	Contract incentive payments will be based upon contract-stated levels of improvement over preestablished cleanup, cost, and milestone accomplishments.
	For projects that generate wastes, include in the contract a specified target percent reduction in waste generated per unit of output in full compliance with all regulatory requirements (e.g., Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)).	Percent reductions in wastes generated per unit of output (for programs that generate wastes), as specified in contract work statements.
<b>Goal 5: Focus the technology development program as DOE's major environmental management issues while involving the best talent in the DOE and national (public and private) science and engineering communities.</b>	Contracts must include both requirements and incentive payments for contractor-identified technology innovation related to the solution of program objectives.	Contract provisions will authorize reimbursement to stated limits for technology innovation that is validated to be relevant to EM program objectives.
	Technology development contracts must require a designated level of expertise to ensure cost- and technically efficient solutions to EM program objectives.	Contract incentives will authorize stated cost and fee payments for technology development accomplishments that constitute new technology or value engineering enhancements, as defined in the contract provisions and are validated as solutions to program

Goals	Criteria	Measures
		objectives and related to contractor decisions to use senior-level expertise.
<b>Goal 6: Develop strong partnerships between DOE and its stakeholders.</b>	Contract deliverables must include requirements to integrate consensus views of stakeholders.	Contract deliverables will require contractor integration of stakeholder views in report products, as directed by EM program managers. Acceptance of reports will be based upon a measured level of coordination on consensus views that are identified by the government for contractor integration into the documentation.

## **Appendix J**

---

# **Business Management Performance Measures and Criteria**

The following performance measures and criteria for various business management areas are samples of those to be used both in self-assessment and in the assessment of contractor performance. They will continue to be refined, updated, and expanded to ensure effective, site-specific business management oversight. Several of the measures are already being used as part of currently approved DOE documents and contracts (e.g., *Personal Property Management Systems Appraisal Guide*).

#### **FINANCIAL MANAGEMENT**

- Contractor indirect and direct budget submissions are completed in accordance with the guidance provided and DOE orders, are submitted by the requested due date, and require minimal work.
- All costs for Work for Others programs will be within sponsor limits.
- Required periodic financial reporting, such as the Quarterly Safeguards and Security Financial Report, are submitted as scheduled, are accurate, and are consistent with other reporting requirements.
- Outlay estimates are planned with sufficient accuracy to negate periodic revision reporting.
- Indirect cost pools are managed to adhere to the negotiated overhead amounts and rates.
- Direct and indirect costs can be fully allocated by the laboratory's financial system.
- The laboratory's commitment system captures all commitments against available funding.
- Policies and procedures are in place that ensure that the correct type of obligated funding is committed to each activity.
- Financial system implementation issues are quickly identified and promptly resolved with appropriate notification to DOE.
- The contractor's cost management practices result in the projected threshold variances and are promptly brought to DOE's attention and justified.

- Monthly Financial Information System reporting is accomplished promptly and accurately with minimal need for corrections as the result of DOE edits.
- Accounts receivable aging, reporting, and control are maintained within DOE guidelines.
- Funds are used for their intended purpose, as stated in Financial Work Plans and other cross-cut/special-purpose reports and project data sheets.
- A Cost Accounting Standards Disclosure Statement will be submitted whenever cost accounting practices that require disclosure are revised. All cost-accounting practices in accumulating and reporting contract performance cost data will be consistent with this statement.
- The annual Voucher Accounting for Net Expenditures Accrued will be submitted by the date prescribed by DOE.
- Policies and procedures are documented, current, and readily available.
- Average daily balances in the letter of credit are maintained as close to zero as possible.

#### **PERSONAL PROPERTY**

The DOE *Personal Property Management Systems Appraisal Guide*, which includes identifiable performance management criteria, should be reviewed to assess its applicability. The measure should be used as the basis for laboratory quality self-assessments and annual assurance memoranda. Sample measures:

- Required capital-equipment and sensitive-item inventories actually performed, including timely analysis and response to identified problems.
- Dollars and percentages saved annually due to reuse (actual amounts and related amounts to previous year).
- Accomplishments in attaining annual motor vehicle criteria.
- Use of usage data to manage motor vehicle fleet size.
- Innovative practices implemented related to management of personal property, including motor vehicles.
- Use of state-of-the-art technology in the management of personal property.
- Identified continuous improvements in the management of personal property and motor vehicles through the implementation/use of quality self-assessments.
- Contractor participation on DOE personal property/motor vehicle reviews.



## HUMAN RESOURCES

**Human Resource Programs:** Contractor human resource policies and procedures are developed and administered in accordance with the Federal Acquisition Regulation (FAR), DOE Acquisition Regulation (DEAR), the contract, industry standards, and good business practices that support project goals and objectives in a cost-effective and timely manner.

**Risk Management:** Contractor worker compensation and casualty insurance programs make judicious use of government funds through adequate case management, control of reserves, and appropriate oversight of third-party administration.

**Benefits Programs:** Contractor benefit programs to include health and welfare plans and pension programs do not exceed industry standards and normative costs and are integrated with compensation to ensure the reasonableness of costs overall to the organization.

**Labor Relations:** Contractor labor-management relationships are managed consistent with all applicable laws and DOE policies. Settlements are reasonable when compared to national data sources and comparative settlements within the DOE complex.

**Human Resource Development and Training:** Contractor human resource development and training programs are consistent with DOE policies, integrate both federal and other contractor resources, and are implemented in a systematic and orderly management process consistent with industry practice, contract language, and DOE policies in support of DOE missions.

**Compensation:** Contractor personnel costs are managed applying a total compensation approach to the management of personnel costs to include compensation systems. These systems provide for judicious expenditure of government funds and reasonable wages and salaries that attract and retain a competent and productive work force, while relating compensation to the performance and contract work.

**Manpower Management:** Contractor management of manpower usage is conducted cost-effectively through appropriate planning for resource requirements, allocation of resources across projects and mission changes, and cross-utilization of resources interorganizationally.

**Diversity Improvement:** Progress in improving organizational diversity by meeting or exceeding targeted goals that are based upon availability statistics is demonstrated annually. Inability to achieve goals is identified early on in the year, notification to DOE is timely, and appropriate alternative courses of action are implemented.

## **Appendix K**

---

# **Environment, Safety, and Health Performance Measures and Criteria**

Performance measures are essential to the successful implementation of the Department of Energy's Contract Reform Initiative. Environment, safety, and health performance measures and criteria must go beyond mere compliance with regulations and requirements to establish common expectations for cost-effective, comprehensive programs related to environment, safety, and health. These performance measures and criteria will be both process-related and outcome-based.

Environment, safety, and health (ES&H) performance measures and criteria will be established to provide needed information to evaluate contractor performance and management commitment. The following performance measures and criteria are intended to be a blueprint that can be modified and strengthened for each DOE program area. Apart from the performance measures and criteria is a set of results or outcomes that need to be tracked and reported at the Headquarters level. However, these results are only an input to evaluating performance and may include:

1. *Reduction in workers' compensation costs (per employee).*
2. *Number of Class A incidents (per employee).*

Trends in workers' compensation costs and number of Class A incidents are used by industry as a measure of the frequency and severity of accidents. Indications of an organization's overall attitude toward ES&H are also possible.

3. *Number of repeat occurrences and time frame for addressing them.*

Management direction and involvement relative to ES&H can be measured by an analysis of the number of repeat or similar occurrences and the time frame necessary to abate identified hazards or address underlying issues. An organization's ability and commitment to resolve identified problems can also be measured.

4. *Number and severity of notices of environmental violations (including fines and penalties).*
5. *Reduction in environmental releases, as reported by the Toxic Chemical Release Inventory.*

Mission-specific and site-specific ES&H performance measures will also need to be developed. The following could serve as a template or starting point for the development of such measures. In any event, it is expected site-specific measures will be significantly more ambitious when related to a particular operation.

---

#### **PERFORMANCE OBJECTIVE 1: PROTECTION AND PREVENTION**

*The "facility" will conduct operations safely to prevent harm to health, the environment, and the public. (Weight = 30%)*

##### **Criteria**

- 1.1. An effective Environment, Safety and Health Program will identify, control and respond to hazards. The intent of the following group of performance measures is to assure that the facility's

ES&H systems effectively address protection and prevention. They represent key protection and prevention elements intended to demonstrate the effectiveness of ES&H systems. (Weight = 30%)

#### **Performance Measures**

1.1.a. **RADIATION PROTECTION:** Public and occupational radiation doses from DOE operations will be measured or calculated to assure that applicable Federal limits are not exceeded. The collective occupational radiation dose will not exceed 95% of the 5 year running average of the collective occupational dose for a facility. Any actual or anticipated significant change in workloads will be brought to the attention of management as soon as possible and an appropriate change may be made in this goal. For purposes of this goal, significant should be interpreted to be a change of 10% (or more) in workload that would affect radiation dose or toxic exposures.

1.1.b. **EXPOSURE PREVENTION:** The number of reportable occurrences of radiation and toxic chemical exposure will be tracked. A decreasing trend is expected.

1.1.c. **ACCIDENT PREVENTION:** Severity, frequency and lost work time of accidents will be analyzed to identify the major personnel accident types. These causes or precursors will be corrected immediately and tracked/trended.

1.1.d. **WASTE MINIMIZATION:** Jointly, DOE and facility management will select process waste streams that were the highest generators of waste (hazardous, low-level waste, transuranic, or mixed). The facility will reduce the rate of production of these wastes by an average of 25% per year. In addition, the Facility will decrease the aggregate weight of all waste generated sitewide by 30% per year. Any actual or anticipated significant change in workloads will be brought to the attention of management as soon as possible and an appropriate change is to be made in this goal. For purposes of this goal, significant should be interpreted to be a change of 10% (or more) in workload which would affect waste generation rates.

1.1.e. **MEDICAL AND INDUSTRIAL HYGIENE INTERFACE:** The medical staff will have an interactive relationship with the industrial hygiene department and actively participate in workplace hazard assessments as demonstrated by the quality of workplace interactions such as individual or group workplace assessments, review of industrial hygiene monitoring results, involvement in respiratory protection, hearing protection, training, engineering and administrative controls.

1.1.f. **TOXIC RELEASE INVENTORY:** By a date to be established, the facility will demonstrate an effective and functioning toxic release inventory (TRI) program to DOE that will provide the required data for the preparation of the annual TRI report.

---

#### **PERFORMANCE OBJECTIVE 2: COMPLIANCE**

*The facility will comply with applicable federal, state, and local ES&H laws, regulations, and ordinances and with applicable DOE directives. (Weight = 20%)*

### **Criteria**

2.1. The facility will have effective programs in place designed to achieve compliance with applicable federal, state, and local laws, regulations, and ordinances and with applicable DOE orders, as provided in the prime contract. The intent of the following performance measures is to ensure the facility's ES&H systems effectively address compliance. They represent key compliance elements that are adequate to demonstrate the effectiveness of ES&H compliance systems. (Weight = 10%)

### **Performance Measures**

2.1.a. **TRACKING AND TRENDING OF FINDINGS AND VIOLATIONS:** The number of validated environmental violations and findings resulting from inspections by regulatory agencies and formal audits will be tracked and trended by statutes or agency. A downward trend is expected for each category from the base year.

2.1.b. **TRACKING AND TRENDING OF ENVIRONMENTAL RELEASES:** The mean time between reportable occurrences of environmental releases exceeding regulatory or permitted levels imposed by local, state, or federal agencies will be determined and trended. An upward trend is expected.

2.1.c. **OCCUPATIONAL SAFETY AND HEALTH:** 100 percent of imminent-danger situations as defined by Section 13(a) of the Occupational Safety and Health Act will be mitigated immediately upon discovery. Serious violations, as defined by Section 17(k) of the Occupational Safety and Health Act, will be mitigated or corrected within five working days or in accord with a schedule agreed to by DOE.

### **Criteria**

2.2. The facility will be responsive to regulatory agencies. (Weight = 10%)

### **Performance Measures**

2.2.a. **REGULATORY COMMITMENTS:** The rate of compliance with funded regulatory consent agreement milestones will be tracked and trended. A rate of 100 percent is expected. If such milestones cannot be met, the facility must inform DOE in writing at the earliest possible time before the milestone passes and must seek written concurrence from the appropriate regulatory agency on a revised schedule.

2.2.b. **RESPONSE TO REGULATORY AGENCY REQUESTS:** Responses to agreed upon regulatory agency requests will be on time, or new due dates will be requested from the agency prior to the original due date.

---

## **PERFORMANCE OBJECTIVE 3: INTEGRATION AND ACCOUNTABILITY**

*The facility line management is accountable for integration of ES&H programs in all operations.*  
(Weight = 35%)

### **Criteria**

3.1. The managers of facility projects properly plan and execute projects with due regard for ES&H issues, such that adverse consequences relative to ES&H can be prevented, and additional costs relative to addressing ES&H issues will be managed effectively. (Weight = 5%)

### **Performance Measures**

3.1.a. INTEGRATION: The facility will develop in FY 95 a comprehensive management system that ensures that Line and Project/Program Managers integrate applicable ES&H concerns into their functions and program projects during the conception, design, execution, and all final disposition phases. A pilot of the program will be in place no later than August 1, 1994, with full implementation based upon the results of the pilot by October 1, 1994. Full implementation will include the use of quantifiable performance measures in FY 95 as part of the performance assessment process.

### **Criteria**

3.2. Timely, accurate, and complete ES&H budgetary and planning information and required reports submitted to DOE. (Weight = 20%)

### **Performance Measures**

3.2.a. COMPLETION OF MILESTONES: Recurring ES&H budgetary and planning information and reports required by DOE will be submitted in accordance with schedules established. The rate of completion of commitments will be tracked and will be equal to or greater than 95 percent.

### **Criteria**

3.3. Each facility will clearly define and communicate roles, responsibilities, and authorities. The intent of the following performance measure is to minimize confusion regarding ES&H roles, responsibilities and authorities and to aid in holding staff and managers accountable. (Weight = 2%)

### **Performance Measures**

3.3.a. ACCOUNTABILITY: Roles, responsibilities, and authorities with regard to ES&H matters will be defined, documented, and assigned for functional and line organizations to levels that have management responsibility, authority, and accountability and will be current within 60 days of any changes in organization or responsibilities.

### **Criteria**

3.4. Conduct of operations principles are integrated into facility operations. (Weight = 10%)

### **Performance Measures**

3.4.a. TRAINING: The facility will document sitewide training requirements for conduct of operations and occurrence reporting and train all employees who work in category 2 and category 3 nuclear facilities and high-hazard and moderate-hazard nonnuclear facilities by a certain date.

3.4.b. **SELF-ASSESSMENT:** The facility will perform a self-assessment of conduct of operations implementation by a date certain and will revise site-specific implementation plans with current milestones by a date certain. This assessment will establish the baseline by which future improvements will be measured.

3.4.c. **CORRECTIVE ACTIONS:** Corrective actions, as detailed in final Occurrence Reporting System reports will be completed on or before the target date 95% of the time.

---

#### **PERFORMANCE OBJECTIVE 4: RISK REDUCTION**

*The facility will ensure that for its operations, ES&H risks are analyzed, and risk-reduction resources are allocated appropriately. (Weight = 10%)*

##### **Criteria**

4.1. The facility identifies significant hazards to guide management in the allocation of institutionally managed ES&H resources. (Weight = 8%)

##### **Performance Measures**

4.1.a. **RISK ASSESSMENTS:** The facility will develop a schedule by a date certain for completing hazard assessments of ongoing operations, possibly using a graded approach. This schedule will be agreed to by DOE and will include all interim actions that need to be taken as compensatory measures pending completion of comprehensive risk assessments.

##### **Criteria**

4.2. The facility will ensure that the authorization basis regarding the safe operations of facilities is maintained. (Weight = 2%)

##### **Performance Measures**

4.2.a. **OPERATING PARAMETERS:** The facility will have a process in place to identify operating parameters and a management system to monitor those parameters to ensure that they are not violated.

---

#### **PERFORMANCE OBJECTIVE 5: PUBLIC PARTICIPATION**

*The facility will establish an open and honest public participation program to earn public trust, develop credibility, and ensure public involvement in its decision-making process through open communications and participation in state, national, and international activities. (Weight = 5%)*

##### **Criteria**

5.1. The facility will have an integrated program to involve the public in ES&H issues. (Weight = 5%)

**Performance Measures**

5.1.a. **PUBLIC PARTICIPATION POLICY:** The facility will assess public interests and concerns in the area of ES&H and will develop a public policy statement by a certain date.

5.1.b. **PUBLIC PARTICIPATION POLICY IMPLEMENTATION:** The facility will establish an integrated site-specific public outreach program by a date certain. It will include a number of public outreach activities, including public access to site ES&H information.



## **Appendix L**

---

# **Contractor Evaluation and Selection Criteria**

The Department of Energy needs to encourage contractors with proven experience and approaches that may not appear directly related to the management and operation of DOE facilities to participate in the contracting process. To achieve this objective, the solicitation evaluation and selection criteria must strongly emphasize the importance of innovative and entrepreneurial management approaches and attract the corporation's top managers. Examples of the types of factors that should be considered under these evaluation and selection criteria are:

- Managing changing organizations in a dynamic environment.
- Creating new forms of industrial organizations.
- Creating successful collaborative technology transfer partnerships.
- Diversifying efforts in developing new business lines and entities.
- Creating innovative approaches using new concepts and methods, as well as innovative uses of existing capabilities.
- Having demonstrated experience in developing and implementing environmental, safety, and health programs.
- Managing multinational and diverse organizations.
- Motivating human resources in a downsizing and restructuring organization.
- Increasing over time return on investment for research and development activities.
- Creating and maintaining cohesive relationships with stakeholders and communities.
- Applying alternate incentive methodologies.

In addition, solicitations should require a proposer to submit a management plan that will be incorporated into the awarded contract. This plan will:

- Set forth the conceptual framework for the management strategy to implement the DOE vision for a particular facility/site.
- Detail specific goals to be achieved in the first year, in three years, and in five years.
- Set forth the process the contractor will use to fill in the "planning gap" between goals and the current situation.
- Establish clear "metrics" to facilitate objective measurement of contractor performance and achievements against DOE's contractual expectations.

**END**

**DATE**

**FILMED**

**3/24/94**

